CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH
GILES S. PORTER, M.D., Director

Weekly Bulletin

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Entered as second-class matter February 21, 1922, at the post office at Sacramento, California, under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917.

Vol. X, No. 11 April 18, 1931 GUY P. JONES EDITOR

The Prevention and Modification of Measles

Paul M. Ellwood, M.D., Oakland, California

Measles is a highly contagious disease. It has been pretty well established, that about 80 per cent of children under 15 years of age will contract measles on exposure, if they have not had the disease before. In most instances measles leaves no markedly harmful effects, but childhood tuberculosis following measles, and cases complicated by pneumonia, ear, or other infections, even terminating in death, are sufficiently common to cause considerable concern. The largest "measles year" ever to occur in California was in 1927 when 58,963 cases were reported with 312 deaths. This year also promises to be a fairly high "measles year." At present (April 8, 1931) about 1300 cases are being reported each week.

Among not the least of modern medical advances, may be considered the prevention, or the rendering possible of a milder attack (modification or attenuation) of measles, by means of serum treatment. There have been three types of serums developed in this work. (1) Serum from the blood of patients who are just convalescing, or have just recently convalesced from measles, known as convalescent serum. (2) Animal serums made by developing supposedly protective substances in the blood of horses or goats, by methods similar to those used in the production of diphtheria antitoxin. (3) Serum (or whole blood) from adults who have had measles in childhood, known as immune adult serum or whole blood.

It should be noted that none of these agents gives a permanent or lasting protection, and they are only useful in individuals who have recently been exposed to measles. Their great benefit lies in limiting the number of cases in a family, an institution, or a community. They are also of great benefit in preventing measles in children who are already in a debilitated condition, to whom the disease would be dangerous.

Convalescent serum was recommended by two French physicians, Nicolle and Conseil, in 1918. Since that time convalescent serum has proven to be the most effective agent known in the prevention or modification of measles. Various workers in various part of the world have shown this material capable of preventing measles in 80–98 per cent of exposed individuals, if given within the first five days after exposure, and practically without exception the few who do develop measles have it in a mild or modified form. Convalescent serum possesses distinct advantages in that only small doses are required (6 to 10cc. intramuscularly, depending upon the size and age of the individual), and since it is a human product, its use is practically never followed by reactions. The great disadvantage lies in the collection, preparation, and maintenance of the product in sufficient quantities for general use. It is obvious that parents whose children are just recuperating from measles, will not always be willing to have blood taken from them for the preparation of convalescent serum. This difficulty may be overcome by obtaining the blood from adults. Another objection is the fact that the children in whom the disease is completely prevented, are not rendered permanently immune and may, therefore, take measles after a later exposure. This may be prevented by purposely giving the serum later than fifth day after exposure. A mild case of measles nearly always follows and a permanent immunity usually results.

Animal serums have given varying results. The goat serum of Dr. Ruth Tunnicliff of Chicago has probably proven more beneficial than the others. However, this serum has not given consistently satisfactory results. Some series of injections have given practically 100 per cent prevention or modification while others have seemed to give no help whatever. If perfected, the animal serums will prove of great benefit because of their availability.

Adult immune serum or whole blood has not shown the same high degree of preventive power as has convalescent serum. However, it has given excellent results in rendering what might have been a severe or moderately severe case of measles, light and uncomplicated, *i.e.* in modification or attenuation (average dose whole blood 30cc. intramuscularly) and it has been shown that immune adult serum given early in large enough doses may even prevent measles in 85 per cent of those exposed. Except in institutions where it is desirable to stamp out an epidemic, it would seem that the mild infections are preferable to complete prevention, as a permanent protection is thus usually produced. Adult whole blood can nearly always be obtained from the child's parents and may be given immediately.

The point has been raised that human serum or whole blood might transmit some other infraction. This is offset in most cases by (1) taking a careful history to make sure that the donors have no infections, and by a blood test (Wassermann) and, (2) by adding a small amount of antiseptic and by filtering the serum. Whole blood is usually contributed by parents for their own children, and thus little or no fear on the part of such parents would ordinarily be encountered. However, of course, it is always preferable to take precautions.

It is to be regretted, that none of these substances (except in isolated instances) has proven useful in the treatment of active severe cases of measles, also that none of them is capable of establishing a permanent or active immunity. It is hoped that these ends may soon be attained after the causative organism of measles has definitely and surely been found. Apparently the ideal arrangement at present is closest approached by Degkwitz in Munich and Debre in Paris where clinics are maintained for the collection, preparation, and distribution of human serum to all those who require it.

EXAMINATION FOR LABORATORY WORKERS ANNOUNCED

The next examination for certificates of proficiency in the various branches of diagnostic laboratory work will be held in Berkeley and Los Angeles on May 21st and 23d. The examination is both written and oral, and is given in four sections to cover the four main divisions of the work, namely, bacteriology, serology, biochemistry and parasitology. One or all may be taken at the same time, the period allotted for the four being four hours. The questions in bacteriology cover the diagnosis of communicable diseases and water and milk examinations.

The questions in serology require an understanding of the methods of serological diagnosis and a knowledge of the immunological principles underlying.

The questions in parasitology are confined principally to methods of identifying intestinal protozoa and worms.

The questions in biochemistry cover all clinical laboratory procedures not included under the other three divisions.

Special credits are given for college degrees and practical experience. The written examination counts for half the final credits, the oral for one-sixth, and education and experience for one-third. For the senior certificate, a written paper of 80, or more, out of the possible 100 credits, is required.

Individual notice will be sent later to all who have applied, giving the exact time and place. For application forms, address Dr. W. H. Kellogg, Chief, Bacteriological Laboratory, University of California, Berkeley.

CATS ARE FACTORS IN SPREAD OF RABIES

The State Board of Health, at its regular meeting held in San Francisco, April 11, 1931, directed that the attention of all health officers in California be called to the increased prevalence of rabies in animals and to the necessity for intensive action in the control of the disease.

The board directed, also, that the attention of all health officers be called to the necessity for the application of control measures to cats as well as dogs. It has been determined, recently, that stray, homeless cats are decided factors in the spread of the disease in this State.

One of the best indications of mental health is the ability to get along with people. This ability to be sociable, as is the case with possibly all other mental attitudes, is learned and established in childhood.—*James L. McCartney.*

NEW LUNG DISEASE APPARENTLY DUE TO FUNGUS

In a report recently issued by the Public Health Service, the studies of medical officers on a lung disease due to unknown cause encountered by them while investigating the effects of dust upon miners, are described.

About 125 cases of the disease are described as having been found by X-ray examination among more than 18,000 individuals during routine physical examinations. The disease is, for the time being, designated miliary lung disease due to unknown cause.

A majority of the cases did not have sufficient symptoms to cause them to stop work or to seek medical aid. The most characteristic finding was a large number of discrete, dense, shotlike spots scattered over the lung areas. Tubercule bacilli were present in only two of the 88 cases in which an examination was made of the sputum.

Unstained smears of sputum of 31 cases (all those examined) were positive for fungus. The two types of fungi were identified as Aspergillus fumigatus fisheri and Aspergillus niger.

Other workers have reported a condition and designated it as miliary calcification of the lungs, which may be the same condition as that mentioned in the report above described.

The condition, miliary calcification, described in this report may be due primarily to fungus infection.

PERMANENT QUARANTINE ON CLAMS AND MUSSELS

The State Board of Public Health, at its regular meeting held in San Francisco, April 11, 1931, established a permanent quarantine upon clams and mussels during the months of June, July, August and September of each year. This quarantine covers the entire California coast from Monterey County to the Klamath River in Del Norte County, with the exception of the Bay of San Francisco.

Under the provisions of this quarantine order, the sale or offering for sale of clams and mussels gathered from the specified territory during the months of June, July, August and September of each year is prohibited.

Many cases of cancer can be cured if they are discovered at the beginning and are properly treated without delay.

Delay is always dangerous and may be fatal. Prompt action will often save a life which might otherwise be lost.—*Am. Soc. for the Control of Cancer.*

GOVERNOR ROLPH HONORS HEALTH WORKERS

PROCLAMATION

The whole future of the State rests with its children. Nothing in our civilization is of greater importance than the health and welfare of the young generation to whom, eventually, will fall the responsibilities of government. To provide every safeguard to their health, to build their bodies strong and rugged, to give them knowledge and to make their childhood carefree and happy is our pleasant duty. To remember this duty and in honor of the parents, teachers, physicians, nurses and welfare workers who are making this the Golden Age for Children, I have therefore designated this first day of May, A.D. 1931, as Child Health Day, to be observed fittingly throughout the State of California.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this fifteenth day of April, A.D. 1931

JAMES ROLPH, JR.,
Governor.

Attest: FRANK C. JORDAN,
Secretary of State.

MORBIDITY *

Diphtheria.

70 cases of diphtheria have been reported, as follows: Berkeley 1, Oakland 1, El Cerrito 1, Fresno County 6, Fresno 8, Los Angeles County 4, Compton 1, Glendale 2, Inglewood 1, Los Angeles 20, Pasadena 2, South Gate 1, Ukiah 1, Salinas 1, Lincoln 4, Riverside 2, Sacramento County 1, Sacramento 3, San Bernardino County 2, San Diego 1, San Francisco 1, San Joaquin County 1, San Jose 1, Sutter County 1, Tulare County 2, Porterville 1.

Scarlet Fever.

111 cases of scarlet fever have been reported, as follows: Alameda County 3, Livermore 2, Oakland 2, Fresno County 9, Fresno 1, Orland 1, Kern County 2, Los Angeles County 11, Alhambra 1, El Segundo 1, Glendale 2, Huntington Park 1, Long Beach 2, Los Angeles 34, Montebello 1, Pomona 1, Santa Monica 1, Monterey Park 1, Maywood 1, Merced County 1, Monterey County 2, Plumas County 1, Sacramento County 1, Sacramento 2, La Mesa 1, San Diego 1, San Francisco 7, San Joaquin County 1, Lodi 1, San Luis Obispo 2, Belmont 1, Santa Barbara County 4, Lompoc 1, Santa Clara County 2, Sutter County 1, Tehama County 1, Red Bluff 1, Tulare County 1, Visalia 1, Ventura 1.

Influenza.

100 cases of influenza have been reported, as follows: Alameda 1, Oakland 3, Eureka 1, Los Angeles County 6, Beverly Hills 1, Long Beach 1, Los Angeles 44, Sierra Madra 1, Grass Valley 3, Orange County 1, Riverside 1, Sacramento County 1, Sacramento 3, San Diego 4, San Francisco 20, Santa Barbara County 5, Benicia 1, Sonoma County 1, Stanislaus County 2.

Measles.

1532 cases of measles have been reported, as follows: Alameda County 3, Alameda 21, Albany 6, Berkeley 134, Livermore 15, Oakland 88, Chico, 2, Contra Costa County 8, Fresno County 125, Fresno 128, Reedley 1, Eureka 1, Calexico 1, Kern

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* From reports received on April 13th and 14th for week ending April 11th.

County 7, Bakersfield 2, Taft 5, Hanford 4, Los Angeles County 46, Alhambra 3, Avalon 1, Beverley Hills 3, Burbank 14, Compton 5, El Segundo 1, Glendale 17, Hermosa 1, Inglewood 1, Long Beach 31, Los Angeles 212, Montebello 4, Pasadena 8, Pomona 3, San Fernando 10, South Pasadena 1, Vernon 1. Whittier 5, South Gate 2, Madera County 12, Merced County 7, Gustine 2, Monterey County 3, King City 1, Salinas 10, Orange County 28, Fullerton 1, Huntington Beach 17, Orange 12, Santa Ana 65, Seal Beach 3, Laguna Beach 1, Tustin 4, Riverside County 19, Riverside 5, Sacramento County 25, Sacramento 1, San Bernardino County 9, Colton 12, Redlands 3, San Bernardino 1, San Diego County 40, Chula Vista 2, Coronado 2, La Mesa 1, National City 25, San Diego 119, San Francisco 29, Stockton 14, San Luis Obispo County 4, Paso Robles 18, San Luis Obispo 1, San Mateo 11, Santa Barbara County 18, Santa Clara County 6, Gilroy 1, Mountain View 3, Palo Alto 1, San Jose 5, Santa Clara 5, Watsonville 4, Stanislaus County 6, Ceres 1, Tulare County 4, Dinuba 4, Lindsay 1, Ventura County 26, Ventura 18, Ojai 2.

Smallpox.

42 cases of smallpox have been reported, as follows: Eureka 1, Los Angeles County 10, Los Angeles 3, Monterey Park 1, San Anselma 1, Salinas 1, San Francisco 4, Stockton 1, Stanislaus County 1, Sutter County 2, Yuba City 1, Tehama County 12, Tulare County 2, Visalia 1, Yuba County 1.

Typhoid Fever.

10 cases of typhoid fever have been reported, as follows: Oakland 1, Kern County 1, Los Angeles 2, Placentia 1, Sacramento County 3, San Francisco 1, Tulare County 1.

Whooping Cough.

403 cases of whooping cough have been reported, as follows: Alameda 14, Albany 2, Berkeley 16, Oakland 30, Contra Costa County 6, Richmond 1, Fresno County 13, Fresno 2, Los Angeles County 9, Arcadia 1, Burbank 2, Compton 1, Huntington Park 2, Long Beach 5, Los Angeles 34, Monrovia 1, Pasadena 2, Pomona 2, San Fernando 1, San Marino 1, Santa Monica 7, Lynwood 1, Hawthorne 3, Bell 2, Orange County 2, Orange 2, Santa Ana 2, La Habra 1, Riverside 18, Sacramento 60, San Juan Bautista 3, San Bernardino County 1, San Bernardino 1, National City 1, San Diego 2, San Francisco 40, San Joaquin County 18, Lodi 4, Stockton 35, Tracy 5, San Luis Obispo 12, San Mateo 3, Santa Barbara County 1, Santa Clara County 11, Palo Alto 1, San Jose 11, Santa Clara 5, Benicia 2, Stanislaus County 3, Dinuba 1.

Meningitis (Epidemic).

7 cases of epidemic meningitis have been reported, as follows: Los Angeles County 4, Merced County 1, Monterey County 1, Riverside County 1.

Poliomyelitis.

4 cases of poliomyelitis have been reported, as follows: Los Angeles County 1, Long Beach 1, Madera County 1, Brea 1.

Trichinosis.

San Francisco reported two cases of trichinosis.

Septic Sore Throat.

7 cases of septic sore throat have been reported, as follows: Alameda County 2, Taft 2, Los Angeles County 2, Sacramento 1.

Jaundice (Epidemic).

Stanislaus County reported 5 cases of epidemic jaundice.

Undulant Fever.

5 cases of undulant fever have been reported, as follows: Los Angeles County 1, Pomona 1, Orange County 2, San Luis Obispo 1.

COMMUNICABLE DISEASE REPORTS

Disease	1931				1930			
	Week ending			Reports for week ending April 11 received by April 14	Week ending			Reports for week ending April 12 received by April 15
	Mar. 21	Mar. 28	April 4		Mar. 22	Mar. 29	April 5	
Chickenpox	654	523	441	557	699	620	734	646
Coccidioidal Granuloma	1	0	0	0	2	1	0	1
Diphtheria	50	37	59	70	56	55	61	58
Dysentery (Amoebic)	4	1	0	1	2	2	1	0
Dysentery (Bacillary)	2	1	1	1	1	1	0	0
Encephalitis (Epidemic)	2	0	1	0	2	2	1	1
Erysipelas	22	12	25	21	19	16	17	20
Food Poisoning	6	7	2	0	6	35	3	1
German Measles	14	23	17	21	40	47	40	15
Gonococcus Infection	111	107	124	100	101	101	135	149
Hookworm	0	0	1	0	0	0	3	0
Influenza	450	987	145	100	35	40	30	23
Jaundice (Epidemic)	1	0	0	5	0	0	0	0
Leprosy	1	1	0	0	1	0	0	1
Malaria	1	0	0	0	1	1	1	1
Measles	1,449	1,858	1,322	1,532	1,985	2,463	2,365	2,524
Meningitis (Epidemic)	3	4	10	7	13	10	13	10
Mumps	369	358	236	372	978	905	1,023	982
Ophthalmia Neonatorum	0	0	0	0	0	3	1	0
Paratyphoid Fever	1	0	0	0	0	1	0	1
Pellagra	0	0	1	3	0	1	2	1
Pneumonia (Lobar)	90	82	72	50	44	136	73	63
Poliomyelitis	2	2	3	4	2	3	4	3
Rabies (Animal)	29	30	14	27	40	27	25	10
Scarlet Fever	153	166	139	111	192	195	168	163
Smallpox	36	52	39	42	95	139	105	105
Syphilis	170	146	222	183	178	158	225	188
Tetanus	1	1	2	0	1	0	2	1
Trachoma	8	0	1	1	2	4	1	2
Trichinosis	0	0	0	2	4	1	14	1
Tuberculosis	214	229	250	161	258	320	216	203
Typhoid Fever	8	5	8	10	8	3	6	5
Undulant Fever	1	2	1	5	2	3	2	0
Whooping Cough	343	300	222	403	210	213	197	221
Septic Sore Throat	4	0	5	7	0	0	0	0
Totals	4,200	4,934	3,363	3,796	4,977	5,506	5,468	5,399

Diphtheria shows a slight increase.

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Influenza, each week, is showing a decrease.

* * *

Whooping cough has almost doubled in its prevalence.

* * *

Two cases of trichinosis were reported last week.

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